

### ABSTRACT

[0037] Supported stereospecific catalysts and processes for the stereotactic propagation of a polymer chain derived from ethylenically unsaturated monomers such as the polymerization of propylene to produce syndiotactic polypropylene or isotactic polypropylene. The supported catalyst comprises a stereospecific metallocene catalyst component and a co-catalyst component comprising an alkylalumoxane. Both the metallocene catalyst component and the co-catalyst component are supported on a particulate polyamide support comprising spheroidical particles of a polyamide having an average diameter with the range of 5-60 microns, and a porosity permitting distribution of a portion of the co-catalyst within the pore volume of the polyamide particles while retaining a substantial portion on the surface of the particles. The polyamide support is characterized by relatively low surface area, specifically a surface area less than 20 square meters per gram. The metallocene component can take the form of a single metallocene or two or more co-supported metallocenes.